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ABSTRACT

This is an examination of beginning teachers' acquisition of the structures of classroom discourse. Teachers were compared at the beginning and at the end of their first teaching year using a discourse analysis system. Thirty-three hours of audiotapes from 11 teachers were transcribed an coded. Teacher initiations during informing, eliciting, and directive exchanges as well as follow-ups to pupil elicits and pupil responses were examined. Generally, the more experienced teachers ensured more opportunities for information transfer. This study establishes that the structure of classroom discourse is a learned behavior. (Author)

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THE EFFECT OF EXPERIENCE ON THE DISCOURSE STRUCTURE OF BEGINNING ENGLISH TEACHERS

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Rationale

This study entertained the hypothesis that the structure of the teacher's classroom discourse is a learned behavior. Consequently, three general categories of teacher talk were considered: teacher initiations in informing, eliciting, and directing exchanges; teacher responses to pupil initiations; and finally teacher follow-ups to pupil responses. The nature of these situations was not evaluated "qualitatively" in the sense that more praise was good or too many commands were bad. The teacher's talk was evaluated in terms of their use of the possible discourse structures available to them. The effect of these structural variations on pupil attitudes or learning was not considered since the primary concern of the study was the measurement of the degree to which the speech of beginning teacher changes dur- the first year of teaching. Other studies (Trinchero, 1975 and Farrow, 1964) have reported problems in measuring the apparent differences between the beginning teacher's behavior in his or her first month of teaching and the behavior in the last. An assumption of this study was that previous problems in finding differences were the result of the types of measures used and not necessarily due to the absence of differences.

While all of those connected with education -- or any other endeavor -- recognize a difference between the "old hand" and the "kid", little has been done formally about this common sense difference in studies on teaching. One exception was the Stanford Intern Data Bank organized by N. L. Gage which produced a number of studies including Trinchero's (1975) study of technical skills of teaching during the first year of teaching. The findings of the few studies done show mixed results.

Trinchero (1975) found that the teacher's use of questions regardless of subject area increased after micro-teaching but remained fairly constant for the first year of teaching. Farrow (1964) reported that he was unable to find differences between first year teachers in their overall use of questioning. Trinchero (1975) attributed his inability to find changes in the intellectual level of the questions asked to problems in his coding system.

When studies concern themselves with linguistic structures or linguistically relatable structures, the findings are quite similar. For example, Loflin (1975) states that teachers' simplex sentences are more likely to be questions or demands than those of students. Bellack, et. al. reports that nearly 50% of all teacher moves are solicitations while only about 11% of pupil moves are questions.

Bellack et. al. (1966), Lundgren (1972), and Power (1971) all report that the most frequent type of structure in classroom language is "simple reciprocation" following a teacher elicitation. Figures from 22% to 35% of all sequences are reported for the sequence of solicitation-response-reaction by the three studies. The next most frequent sequence is solicitation-response. Trinchero (1975) reports that the frequency of follow-up activity increases over the first year of teaching, but Farrow (1964) found no differences.

Purpose of Discourse Analysis

Discourse analysis builds on two basic concepts: language function and language sequence. Language function is the purpose to which an utterance is being put, hence, it involves the interpretation of the intent of the speaker. Sequence in discourse analysis is the expression of the continuous inter-

relationships that an utterance of more than a base sentence has.

Language function parallels but is not identical with syntactic structure. The four language functions are elicitation, information, directive, and boundary marking. The first three are self-explanatory. It can be a speaker's intent to provide information, ask a question, or give a direction. The fourth function is tied to the notion that discourse has a sequence. If discourse is sequential, some way must exist to mark the divisions between discourse units.

Sequence in discourse implies a pattern or structure within the whole piece of language. While sequence would imply a linear progression, discourse structures can have cataphoric and anaphoric elements. For example, in interpreting the phrase, "That's the one," it is necessary to know the reference for "that". Since it refers to something that has been said previously, it ties the utterance it is in to the previous utterance. This notion of utterances being related to previous or successive utterances is the basis for building sequential patterns of discourse.

It is these two characteristics, language function and language sequence, that make discourse analysis an ideal tool for the analysis of classroom verbal interaction. Since speaker intent is likely to have an effect on the interlocutor's thoughts or actions, an analysis system that has a comprehensive theory of intent as its base will be more descriptive than a system that is selective in its language items. While categories such as "teacher praise" or "positive reinforcement" are of interest to researchers, failure to realize that they occur within a context and that they can be described within a more global view of language is part of the cause of the differential results of such studies.

When the sequence of discourse within a classroom is considered, other possibilities for teacher manipulation of students' attitudes and learning contexts become apparent. The teacher does not have to simply wait for a student response to condition subsequent interactions but can within his or her own speaking-turn structure the situation in such a way as to enhance certain kinds of responses. A consideration of the sequential nature of classroom discourse reveals a number of potential structures that can be manipulated by the various participants for a variety of effects.

Discourse analysis first divides all language into mood or moodless units based on their function. A piece of language either functions as an informative, elicitation, or directive, or it functions as a boundary marker between larger units. The categories of mood are divisible on the basis of their intended reaction and truth value. If the intended response is physical, the mood is a directive. If the intended response is non-physical, the mood is either an informative or an elicitation. Assertions of the truth of a proposition are informatives. In an elicitation, the intention is to complete a proposition.

Since discourse analysis depends on decisions about the intentions of propositions, the minimal unit of analysis for a mood category would be a major clause or "T-unit". Since moodless items mark boundaries between units on the same level, and are not concerned with the propositional characteristics of language, they can be shorter. The smallest boundary markers can be words or phrases such as "alright, okay, now" or ordinal numbers. In the analysis of larger stretches of language the boundary markers will increase proportionally. Discourse analysis can deal with units as small as words or phrases or as large as speeches, sermons, or entire lessons.

Interaction analysis systems such as Flangers (1967) or Amindon and Hough (1967) do not offer the advantages that a discourse analysis system does. These systems tend to be built out of committments to the development of specific teaching behaviors in the hope of altering very limited classroom patterns. In fact, many are based on the earlier Withall Social Climate Scale (1949). While the goals of these researchers are laudable, the method is limited to a specific set of categories. Discourse analysis on the other hand is a comprehensive view of language. If one wishes to pursue a particular feature of classroom verbal interaction, the item is defined and located in functional terms and in relation to the rest of the verbal patterns of the classroom. Secondary analysis in terms of evaluative criteria is still possible while at the same time the character of the item is clearly defined within a discourse framework. Another disadvantage of the live-observation interaction analysis system is that they are often only able to consider isolates, that is, the occurrence of a specific verbal behavior separated from the on-going flow. Frequency counts in interaction analysis systems are unable to address themselves to the question of variation in the sequential patterns of classroom interaction.

Other systems such as Bellack et. al. (1966) or Tisher (1970) are not limited by these concerns. They offer a sequential analysis of classroom verbal content as well as isolatable categories. However, these systems are built on either games theory or logic categories and as such are not comprehensive accounts of language behavior. Dunkin and Biddle (1974, p. 286) have reviewed a number of these systems and show the conceptual variation across systems. They found in

a comparison of several systems that not a single category corresponded across systems and concluded that no system represented a complete representation of the phenomenon. Further, the selection of the basic model, that is games theory or logic, biases the selection of subsequent categories. For example, example, Bellack et al's category of structuring subsumes both information transmission for the purpose of establishing the focus of an activity, the direction to begin a physical activity, and a command to desist from an unacceptable behavior.

Clearly, researchers have been able to find sequences of classroom interaction. While many have described relatively long patterns, none have been interested in relating the nature of these sequences to the characteristics of the teacher. Tisher (1971) found complex relationships between the logical level of episode initiations and pupil achievement, however, he did not relate the structure of the episode to the achievement of the student. This study will be like the other studies in one way but diverge from them in another. This study has two goals. One is to describe, for a specific subject area, the internal structure of teaching interactions. The other is to relate the structure of verbal interaction to the characteristics of the teacher. The hypothesis underlying this second goal is that verbal interaction lacks the retrievability of written language, hence it must have specific structures if it is to be effective.

Discourse Analysis System

To produce a comprehensive yet non-redundant system, two principles were applied in the formulation of the working system of analysis.

First, the distinction between syntagmatic and paradigmatic categories was borrowed from formal language analysis and applied to functional ayalysis. Lyons (1968) describes the difference between the paradigmatic category and the syntagmatic category as the difference between whether a unit can occur in the same context as other units and the context within which the unit occurs. Units that can fill the same contexts are paradigmatic units while the units that define the context are syntagmatic units. For example, nouns are paradigmatic units because they can vary within the syntactic unit of subjects of sentences. Applied to discourse, acts vary within a move structure while moves comprise the basic structure for the exchange.

Second, for a category to be in the system, it had to be motivated conceptually and contain no overlapping elements. Acts were motivated by the distinction between moodless clauses and those that express mood. This produced four categories of acts expressing mood: informative, elicitation, directive, and imperative. The first three are realized only by clausal structures with the appropriate syntactic markers. The imperative was a new category used to describe the results of Sinclair and Coulthard's algorithm (1975) for deciding if a question or statement had been functionally shifted in the command category. For the purposes of frequency counts, the imperative and directive items are combined and reported as directives only.

The act, the smallest unit of analysis, is roughly analagous to a grammatical clause or phrase. It is essentially any unit of speech whose discourse function can vary within a single speaker's turn. While there are a wide variety of possible functional distinctions that can be made within a single turn to produce a list of twenty or more possible categories of acts, depending on the criteria used, this study is restricted to the limited set of acts defined in the table below.

Table 1

Definition of Acts

Act	Definition	Realization
marker	sets the boundaries between discourse units	closed set of words such as, "okay, alright, right, now, well, good, etc."
bid	student attempt to enter into discourse	calling out teacher's name or substitute action
nomination	teacher selection of student to participate in discourse	set of student names
react	non-linguistic response to elicitation or imperative	appropriate physical response
elicitation	syntactic question	syntactic question clause
informative	syntactic statement	syntactic statement clause
directive	syntactic imperative	syntactic imperative clause
imperative	syntactic question or meets limits of decision algorithm	question or statement clause

The move is comparable but not identical to the individual speaker's turn. A speaking turn will contain at least one move, but may contain more if the speaker's intent changes during his turn. A basic model produces the structure of the move. First, the assumption is made that the move is a speaker's turn with a specific intent. If this assumption holds, then the move should have some point for its existence. This is the "head" of the move or the reason why the speaker initiated the move. Further, if a speaker wishes to indicate a desire to speak or wishes to signal the start of his turn he needs a signal to show that he is finished, hence the "select." Since it is

conceivable that a speaker would wish to put his remarks in perspective or condition his presentation in some fashion either prior to making his point or just after making it, the slots "prehead" and "posthead" are postulated.

Table 2

Structure of the Move

starter:	to indicate the acceptance of turn, or to mark the start of a turn.
pre-head:	to set a focus for head.
head:	purpose of speaker's turn.
post-head:	to offer reaction to head.
	to evaluate head.
select:	to offer turn to another.
	to select other.
	to indicate acceptance of other's request for participation.

Exchanges are topically and structurally related sequences of turn-taking which can be distinguished on the basis of the intent of the speaker and relative status of the speaker initiating the exchange. An exchange is intentionally an inform, elicit, or direct depending on the overall purpose of the speaker. It is a teacher or pupil exchange depending on the individual who initiates the exchange.

Bellack et al. (1966), Lundgren (1972), and Power (1971) describe a variety of different teaching structures based on differences in their coding systems but they all agree that the basic pattern in teaching is a two or three move, topically related interaction. For this reason, a basic three part structure is posited for the exchange. There is the opening move which has as its head the initiating topic for the exchange; there is the optional answering move which is the other participant's opportunity to contribute; and lastly there is the optional follow-up move which is the initial part of the first participant's next move during which they can react to the response of the other. Variations occur in the move structures within exchanges due to the status of the speaker and type of initiation undertaken, but these will not be discussed here.

Table 3

Structure of the Exchange

			Acts
Exchange	Opening Move:	starter	
		pre-head	
		head	
		post-head	
		select	
	Answering Move:	starter	
		pre-head	
		head	
		post-head	
		select	
	Follow-up Move:	starter	
		pre-head	
		head	
		post-head	
		select	

Cronbach's alpha

Three coders coded the thirty-three hours of classroom language that were used in this study. Cronbach's alphas, which are measures of the internal consistency of a rating system, were calculated for each level of the analysis system. The values were: .862 for the exchange level, .805 for the move level, and .662 for the act level. The descending order of consistency is due to the fact that each lower level has a component of variance in it due to its position within the level above it. No doubt that a recalculation of the reliability coefficients with that factor adjusted for would correct for the fairly low consistency figure for the act level. However, this would require an analysis with over 30,000 cells, many of which would have do data in them. It was decided not to adjust for the factor in calculating a rater consistency figure.

Data Collection Process

The data for this study were gathered at two different times with two different groups of teachers. Six Stanford Teacher Education Programs (STEP) interns were studied in May, 1976 at the completion of their first year of teaching, Group 1, while five interns from the same program were studied in September, 1976 at the start of their first year of teaching, Group 2. The interns taught at least one class of ninth grade English in pre-dominantly white middle-class San Francisco Bay area high schools.

The interns taught a two week unit on American Indian Literature. During that period, they were audiotaped on three occasions. Since the teachers were to spend only ten class sessions on the unit, 30% of the total time spent on

the unit was available for analysis. The audiotapes were then transcribed, edited for information loss and accuracy, and retyped for coding.

The Stanford Teacher Education Program (STEP) is a fifth year master's degree program that prepares subject area specialists to teach in secondary schools. The candidates are selected on the basis of academic excellence, prior experience with children, and potential as a teacher. In one year, they complete a forty-five unit degree program and ten hours of teaching weekly. From year to year, the groups are quite homogeneous as to age, background, and ability.

Table 4

Background Data for Intern Teachers

	Group 1 (n=6)	Group 2 (n=5)
GRE Verbal		
mean	652.66	564.00
s.d.	73.87	93.43
GRE Quantitative		
mean	563.33	586.00
s.d.	94.93	146.73
Age		
mean	23.33	23.80
s.d.	1.21	2.49

While the teachers were a reasonably homogeneous grouping, the classes were not, as can be seen from the ages and ability test scores for the two groups of classes. The first group of students was older and generally brighter than the second group. The age difference is clearly the result of using students at two extreme points in a calender year. It would certainly account for part of the difference between the two groups on the ability measure.

Table 5

Background Data for Classes

	Group 1 (n=1)	Group 2 (n=5)
Vocabulary score		
mean	16.43	15.74
s.d.	6.33	6.52
Age		
mean	15.58	14.99
s.d.	0.62	0.78
Class size		
mean	25.83	28.80
s.d.	18.60	42.50

The V-1 Vocabulary Test of the French Kit (French et al, 1963) was used in this study. The V-1 Vocabulary Test measures verbal comprehension and was chosen because it had been shown to be a good indicator of general ability. Additionally, since this was to be a study of classroom language, some measure of language comprehension seemed appropriate. The V-1 Vocabulary Test is a two-part, multiple-choice test with sixteen items in each part and a four minute time limit for each of its parts.

Since a number of descriptive studies of the process of teaching such as Smith and Meux (1962) and Adams and Biddle (1970) have indicated that teaching patterns are content-specific, there was a need to control for any effect that might be due to the content that the teacher was presenting. This study used a two-week unit on American Indian literature that consisted of general objectives, a collection of poems, short stories, and articles dealing with American Indian literature as well as suggested activities and lesson ideas for each piece of literature. The unit also included an annotated bibliography of additional resources and a list of available multi-media materials. American Indian literature was chosen because it is unusual but not escteric in that it would appear as a few selections in an American Literature survey or a Minority Literature course. The unit was designed along the lines of the Joyce and Joyce content control vehicles (Joyce and Joyce, 1970) to permit random entry by the teacher while limiting the effects of content variation.

The Effect of Teacher Experience on Discourse Structures

Table 6

Chi-Square Values
Structure of Opening Move of
Teacher Inform Exchange

Category	Value	d.f.
starter	0.729	1
pre-head	35.36***	3
post-head	38.04***	3

*** $p < .001$

There was no point in calculating a value for the head of the opening move since it is always an inform head. The chi-square value for the select was not calculated because there were insufficient frequencies in one cell.

The less experienced teachers produced proportionally more exchanges without a marker in the starter position than did the more experienced teachers, but the result was not significantly different. The experienced teachers produced more inform acts than did the less experienced teachers in the pre-head position. The less experienced teachers produced proportionally more acts without pre-heads or with pre-heads using elicit acts than did the experienced teachers. In the post-heads, experienced teachers used proportionally fewer acts and again used more inform acts. The difference between the observed and expected values for direct acts for both groups was miniscule. Less experienced

teachers produced fewer pre-heads without acts than expected. They produced considerably more elicit acts than expected and only about two-thirds of the expected number of inform acts.

A "teaching style" can be described by considering the differences between the two groups. The more experienced teachers were the group more concerned with direct information transferral. Their use of inform acts in the pre- and post-head suggests that they are concerned primarily with providing a focus for their students and that they do not feel a need for conscious feedback. Their use of direct acts in the pre-head suggests that in those rare occurrences (7.4%) they are willing to assert their authority to direct the students' attention to a specific point before beginning. The less experienced teachers use of elicit acts in both the pre- and post-heads are more than "rhetorical questions" but less than actual elicitations. They are clear signals that the teacher wants some kind of feedback. The less experienced teachers were either unable to perceive the students' back channel signals during an information transmission situation or wished for further reinforcement.

Farrow (1964) in a study of the language of first year teachers also found that the number of informing statements made by beginning teachers increased over time. Hiller (1969) found that teacher's optimal information amount is positively associated with pupil achievement for some topics. Hiller defined optimal information as the use of detail in relation to the total number of words. The more experienced teachers use of more inform acts in the pre-head would be of greater help to the students in locating the subsequent information in space and time than a simple initiation of the informing exchange. The use of the direct act is also a possible strategy for drawing attention to material that has just been presented.

Table 7

Chi-Square Values:
Structure of Opening Move of
Teacher Elicit Exchange

Category	Value	d.f.
starter	0.743	1
pre-head	47.870***	3
post-head	6.098*	2
select	32.733***	1

*p $<$.05 ***p $<$.001

There were no differences between the two groups in the starter position. In the pre-head, both groups produced exchanges without pre-heads about 87% of the time; but the more experienced group produced more inform and fewer elicit pre-heads than did the less experienced group. Both groups produced the expected number of direct acts in the pre-head. Post-head positions were left open about 76% of the time for both groups while both groups differed in the use of the types of acts. The more experienced teachers used more inform acts than was expected and fewer elicits. The number of direct acts was too small to consider in the calculation. The more experienced teachers used only about half as many nominations in the select position as would be expected while the proportion was reversed for the less experienced teachers.

The use of the inform in the pre-head provides students with information about the question to be asked while the use of an elicit in the pre-head is

generally a request for the student to recall some stored information. The greater likelihood of the use of the inform act in the pre-head of the experienced teachers suggests that they are trying to give a point of reference for the students before asking the question. They were also more likely to provide a "hint" or a suggestion in the post-head through the use of an inform act. The impression of the difference between the two groups is that when the more experienced teachers felt it necessary to modify the nature of their questions, they chose to give information directly to the students. The less experienced teachers directed their students' attention by asking a question before the head of the elicitation. They were also more likely to follow their elicitation with another question. Although both groups asked many "plain" questions, they dealt with "tougher" questions in quite different fashions.

As was pointed out earlier, there is a confounding of the teacher's instructional experience and experience with the class. The less experienced teacher's tendency to use more nominations can be explained either as the lack of familiarity with the group or a lack of understanding that a teacher's question can be answered by anyone. A third explanation is that the less experienced teachers may be using it as a discipline device to catch the attention of certain students.

Table 8

Chi-Square Values
Structure of Follow-Up Move of
Teacher Elicit Exchange

Category	Value	d.f.
starter	2.739	1
pre-head	5.428	2
head	13.290**	2
post-head	16.068***	2

**p<.01 ***p<.001

There were no statistically significant results in either group's use acts in the starter or pre-head position. In the case of both groups, the frequency of the use of any act in the pre-head was very low. The more experienced teachers were more likely to respond with the use of an act in the head position than the less experienced teachers. The more experienced teachers were also more likely to use an inform act. The less experienced teachers used elicits proportionally more often than did the more experienced.

The more experienced teachers tended toward more positive kinds of responses than the less experienced. The use of elicit acts both in the head and post-head position by the less experienced teachers suggests that either they did not understand the student's response or they were trying to clarify it. Most of the inform acts in the follow-up moves tend to be simple repetitions of the student's response and do not indicate anything more than a back-

channel function; but the tendency to use questions can raise one of two doubts in the student's mind. The student must either conclude that the teacher has not heard the student or that the teacher does not believe what the student is saying. In either case the effect on the student's perception of the teacher will not be very positive.

Table 9

Chi-Square Values
Structure of Opening Move of
Teacher Direct Exchange

Category	Value	d.f.
starter	2.435	1
pre-head	6.711	3
post-head	9.40*	3

*$p < .05$

There were no statistically significant differences between the two groups in the structure of the starters and pre-heads. Post-head structures differed between the two groups in that the experienced teachers had proportionally more pre-heads without any acts and proportionally more inform acts used as pre-heads. The less experienced teachers had proportionally more elicit and direct acts in the post-head. There were insufficient frequencies in one cell of the select position to permit the calculation of a Chi-Square statistic.

The style of Teacher Directs is to not give any particular kind of notice before issuing the directive. If a directive is followed by a comment, there are differences between the groups in the choice of acts. The less experienced teachers tend more to use a feedback device -- elicit act -- or a reinforcement of the original command. The experienced teachers tend to give some information related to the directive. Much of this difference is probably attributable to the fact that the less experienced teachers were using the Teacher Direct exchange as a discipline device. Their motivations for the structure of the discourse act would be different from the more experienced teachers who only occasionally used the Teacher Direct for discipline but more often used it to give assignments or to orient the students to a particular kind of material.

Table 10

Chi-Square Values
Structure of Answering Move of
Teacher Direct Exchange

Category	Value	d.f.
starter	.091	1
head	.923	1
post-head	.506	1

The structure of the teachers' responses to student inquiries is generally uninteresting. Since students initiate relatively few exchanges with the teachers, there are fewer opportunities for the teachers to respond. The effect of this on subsequent analysis is that there are often too few cases to consider.

Conclusions

The difference between the two groups is either one of confidence or practice. Since there is a confounding of the teacher's experience as an instructor with the teacher's experience with the particular class, the problems of assigning the source for this style difference is made more difficult. There may be a mutually developing system of signals, or there may be a set of student signals that a teacher must learn.

The more experienced teachers produced more opportunities for their students to acquire information and felt less of a need for overt feedback from them. On the other hand, when the experienced teachers asked a question, they are more likely to frame the question in some fashion and to offer more feedback than the less experienced teachers. The less experienced teachers reflect a general lack of confidence in their use of elicit acts as post-heads in the opening moves of Teacher Direct exchanges. There are clear differences between the two groups, and they tend to fit into two general categories: more experienced teachers ensure more information transfer and are more confident in their roles.

The general results of this study are not earth-shattering, but they do fit common sense observations of the phenomenon of learning how to teach. This study has two implications for future work in research on teaching and teacher training. In the area of teacher training, it suggests that the individual

speaker's turn is manipulat able structure, that is, the teacher can alter the structure of his or her presentation within a micro-unit like the speaking turn. It would be useful in the future to train an awareness of this potential into beginning teachers so that they would be able to become more effective more rapidly. In the area of research on classroom teaching, this study shows the usefulness of discourse analysis as an analytic tool.

The next step would be to consider the "qualitative" aspects of these categories. Having defined a piece of language in terms of its discourse function, the way is now open for a secondary analysis of the various structural features. Questions such as the appropriate intellectual or cognitive level of pre-heads in Teacher Inform exchange opening moves needs to be investigated. For example, should the generalization be presented before the example or vice-versa? Just as structural and later transformational linguistics offered a new analytic tool for the study of the form of language, discourse analysis offers a new tool for the study of its function.

APPENDIX

Table 11

Group Means for Categories in Structure of Opening Move of Teacher Inform Exchange

Starter

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	49.167	68.40	57.91
(s.d.)	42.26	29.20	36.54
marker (mean)	46.17	82.20	62.55
(s.d.)	25.62	9.91	26.86

Table 12

Group Means for Categories in Structure of Opening Move of Teacher Inform Exchange

Pre-head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	115.50	275.40	188.18
(s.d.)	150.46	350.12	259.47
inform (mean)	16.50	13.20	15.00
(s.d.)	10.02	6.30	8.31
elicit (mean)	3.83	15.40	9.09
(s.d.)	7.96	24.94	17.82
direct (mean)	10.17	17.40	13.45
(s.d.)	11.92	35.08	24.03

Table 13

Group Means for Categories in Structure of Opening Move of Teacher Inform Exchange

Post-head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	91.33	90.20	90.82
(s.d.)	113.56	14.91	80.85
inform (mean)	25.83	37.60	31.18
(s.d.)	12.29	14.26	13.95
elicit (Mean)	8.17	21.00	14.00
(s.d.)	15.69	15.83	16.38
direct (mean)	49.17	68.40	57.91
(s.d.)	42.26	29.20	36.54

Table 14

Group Means for Categories in Structure of Opening Move of Teacher Elicit Exchange

Starter

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	109.67	201.40	151.36
(s.d.)	109.30	238.39	176.07
marker (mean)	35.67	35.60	36.18
(s.d.)	27.35	10.41	20.44

Table 15

Group Means for Categories in Structure of Opening Move of Teacher Elicit Exchange

Pre-head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	110.00	106.80	108.55
(s.d.)	85.15	46.63	67.07
inform (mean)	12.67	11.00	11.91
(s.d.)	8.41	5.29	6.88
elicit (mean)	3.83	0.80	2.45
(s.d.)	3.43	0.45	2.91
direct (mean)	2.17	3.00	2.55
(s.d.)	1.33	4.47	3.01

Table 16

Group Means for Categories in Structure of Opening Moves of Teacher Elicit Exchanges

Post-head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	121.17	188.80	151.91
(s.d.)	134.29	225.61	175.00
inform (mean)	5.67	3.80	4.82
(s.d.)	2.94	1.30	2.44
elicit (mean)	20.67	24.40	22.36
(s.d.)	15.46	16.70	15.33

Table 17

Group Means for Categories in
Structure of Opening Moves of
Teacher Elicit Exchanges

Select

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	85.17	250.40	160.27
(s.d.)	33.25	314.30	217.98
nomination (mean)	13.17	25.60	18.82
(s.d.)	19.88	20.66	22.89

Table 18

Group Means for Categories in
Structure of Opening Moves of
Teacher Elicit Exchanges

Starter

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	14.33	35.40	23.91
(s.d.)	6.62	24.91	19.78
marker (mean)	28.50	23.60	26.27
(s.d.)	18.26	12.95	15.51

Table 19

Group Means for Categories in Structure of Follow-Up Move of Teacher Elicit Exchange

Pre-head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	185.67	30.00	114.91
(s.d.)	320.59	13.95	240.99
inform (mean)	2.33	16.40	8.73
(s.d.)	1.21	35.56	23.67
elicit (mean)	0.33	6.60	3.18
(s.d.)	0.43	13.11	8.93

Table 20

Group Means for Categories in Structure of Follow-Up Move of Teacher Elicit Exchange

Head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	9.00	16.20	12.27
(s.d.)	12.28	8.76	10.96
inform (mean)	43.50	37.20	40.64
(s.d.)	24.68	33.72	27.75
elicit (mean)	2.17	19.20	9.91
(s.d.)	2.86	39.59	26.65

Table 21

Group Means for Categories in Structure of Follow-Up Move of Teacher Elicit Exchange

Post-head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	42.00	40.00	41.09
(s.d.)	35.03	18.64	27.45
inform (mean)	9.50	5.00	7.45
(s.d.)	4.14	5.15	4.97
elicit (mean)	0.33	2.40	1.27
(s.d.)	0.82	2.79	2.50

Table 22

Group Means for Categories in Structure of Opening Move of Teacher Direct Exchange

Starter

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	14.17	30.20	21.45
(s.d.)	15.12	13.59	16.07
marker (mean)	15.33	28.20	21.18
(s.d.)	8.62	11.10	11.47

Table 23

Group Means for Categories in Structure of Opening Move of Teacher Direct Exchanges

Pre-head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	20.33	49.80	33.73
(s.d.)	11.93	19.85	21.58
inform (mena)	2.83	3.60	3.18
(s.d.)	2.32	2.30	2.23
direct (mean)	1.67	2.00	1.82
(s.d.)	1.37	2.74	1.99
nomination (mean)	3.17	2.80	3.00
(s.d.)	4.26	1.64	3.19

Table 24

Group Means for Categories in Structure of Opening Move of Teacher Direct Exchanges

Post-head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	29.17	33.00	30.98
(s.d.)	30.35	13.84	23.27
inform (mean)	11.33	7.60	9.64
(s.d.)	15.25	3.58	11.19
elicit (mean)	0.83	4.20	2.36
(s.d.)	1.33	2.49	2.54
direct (mean)	2.83	10.20	6.18
(s.d.)	2.86	7.86	6.60

Table 25

Group Means for Categories in Structure of Answering Move of Pupil Elicit Exchanges

Starter

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	16.50	25.80	17.45
(s.d.)	5.65	18.67	14.81
marker (mean)	13.40	5.00	8.82
(s.d.)	4.00	10.74	8.57

Table 26

Group Means for Categories in Structure of Answering Move of Pupil Elicit Exchanges

Head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
inform (mean)	34.20	13.50	22.91
(s.d.)	24.52	7.09	19.56
elicit (mean)	1.17	1.80	1.45
(s.d.)	0.75	2.39	1.63

Table 27

Group Means for Categories in Structure of Answering Move of Pupil Elicit Exchanges

Post-head

Category	Group 1 (n=18)	Group 2 (n=15)	Total (n=33)
no-act (mean)	11.67	29.80	19.91
(s.d.)	6.65	23.09	18.03
inform (mean)	3.33	6.80	4.91
(s.d.)	3.67	3.63	3.91

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